

Conventional Darlington Gain Block Bias

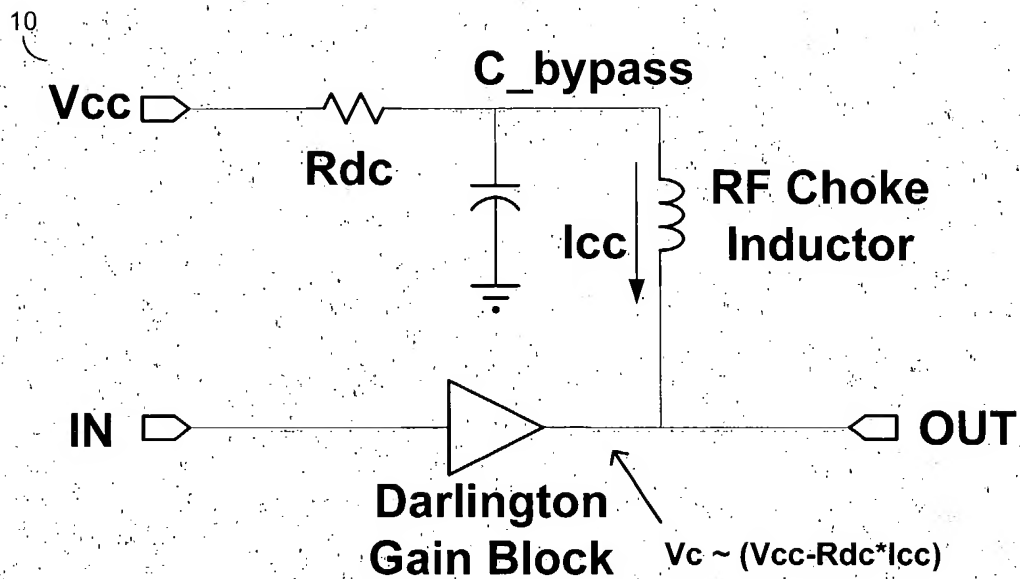
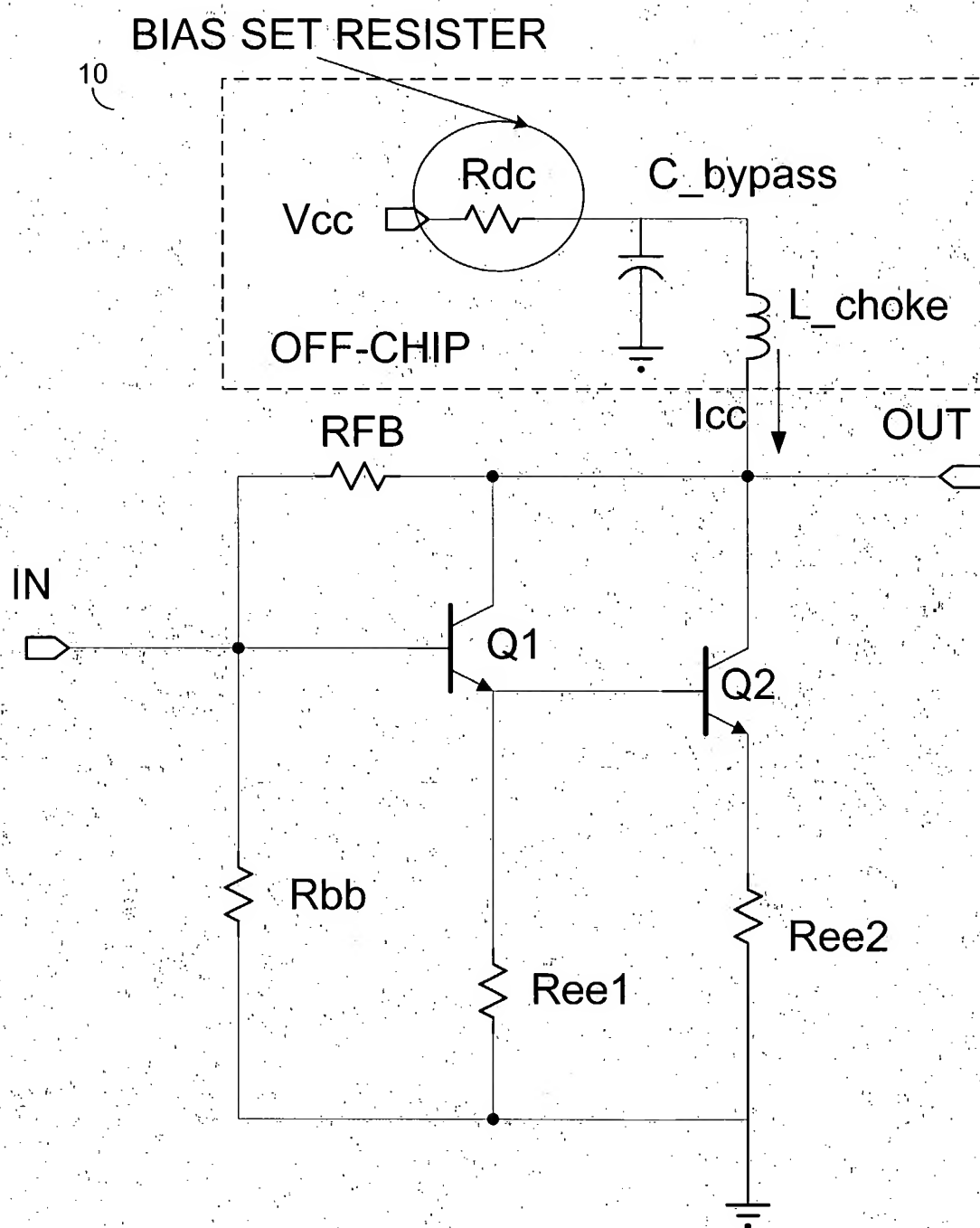
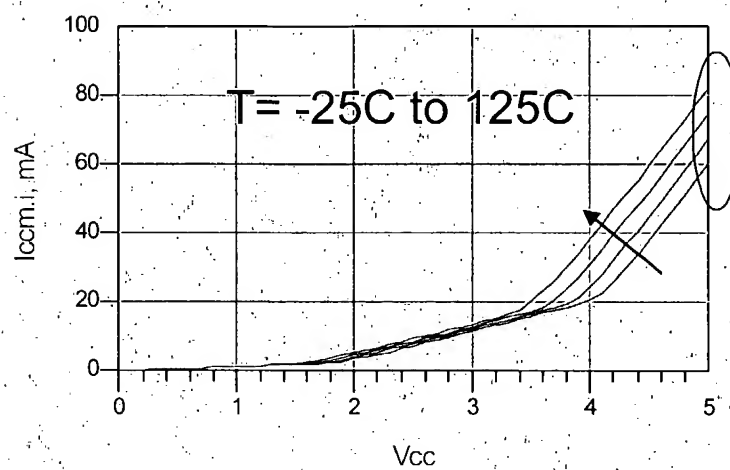


FIG. 1

FIG. 2

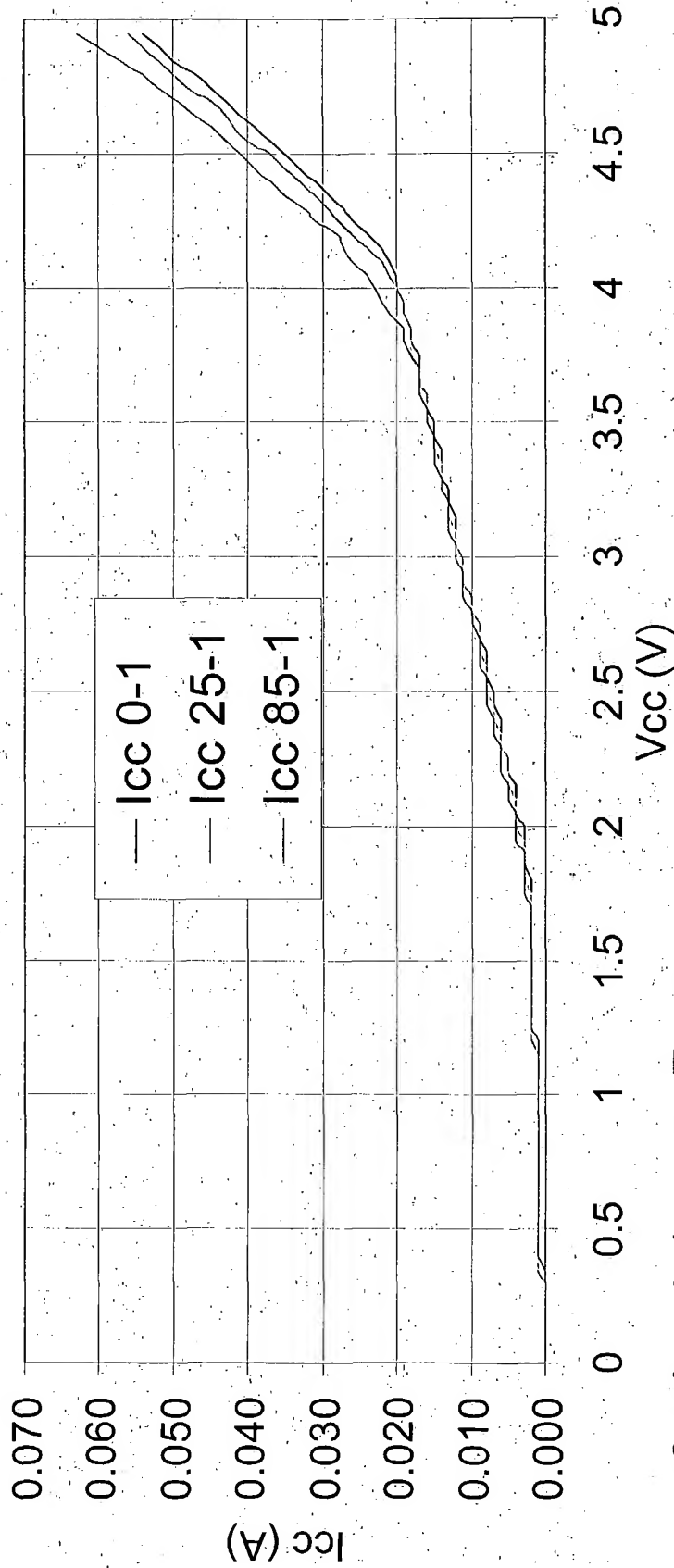
Conventional Darlington Bias



20 mA Variation or $\pm 14\%$

FIG. 3

Conventional Darlington Bias

I_{cc} vs V_{cc}
G69 (T=0, 25, 85C)

~8 mA variation over Temp
(13% variation, T=0-85C)
~40 mAV V_{cc} sensitivity

FIG. 4

Conventional Darlington Bias

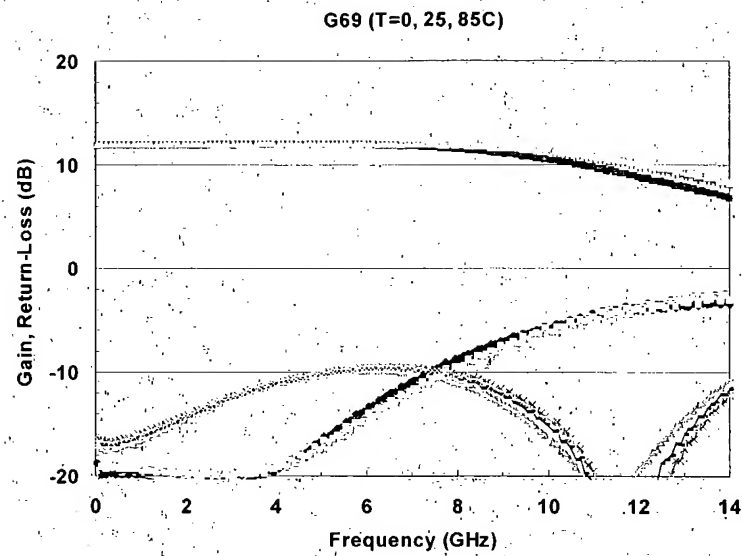


FIG. 5

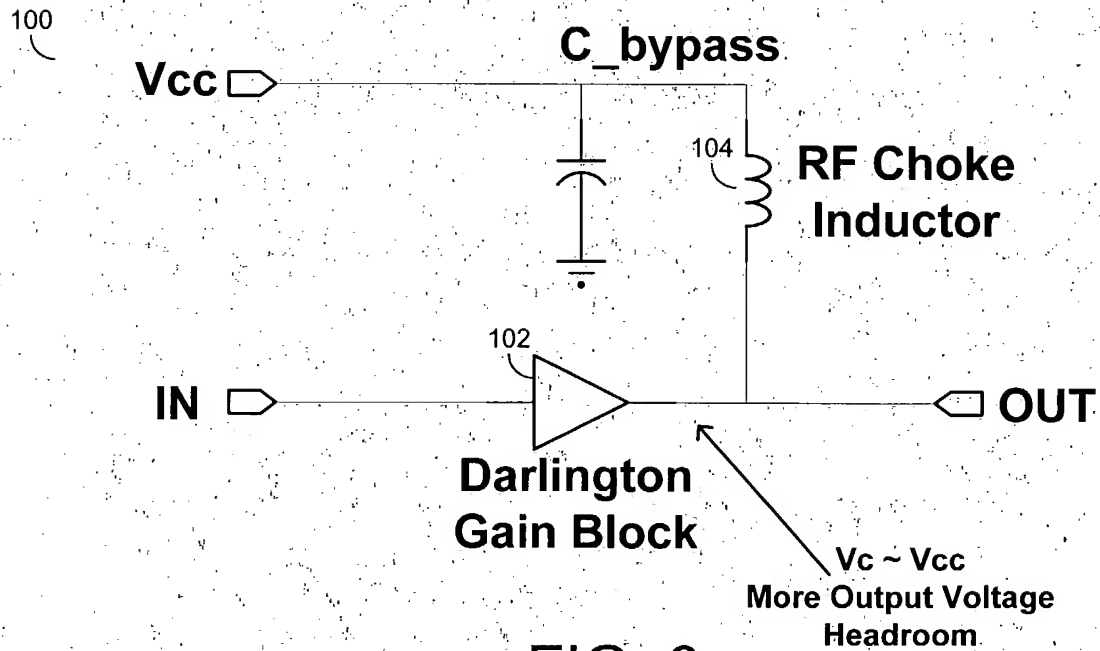
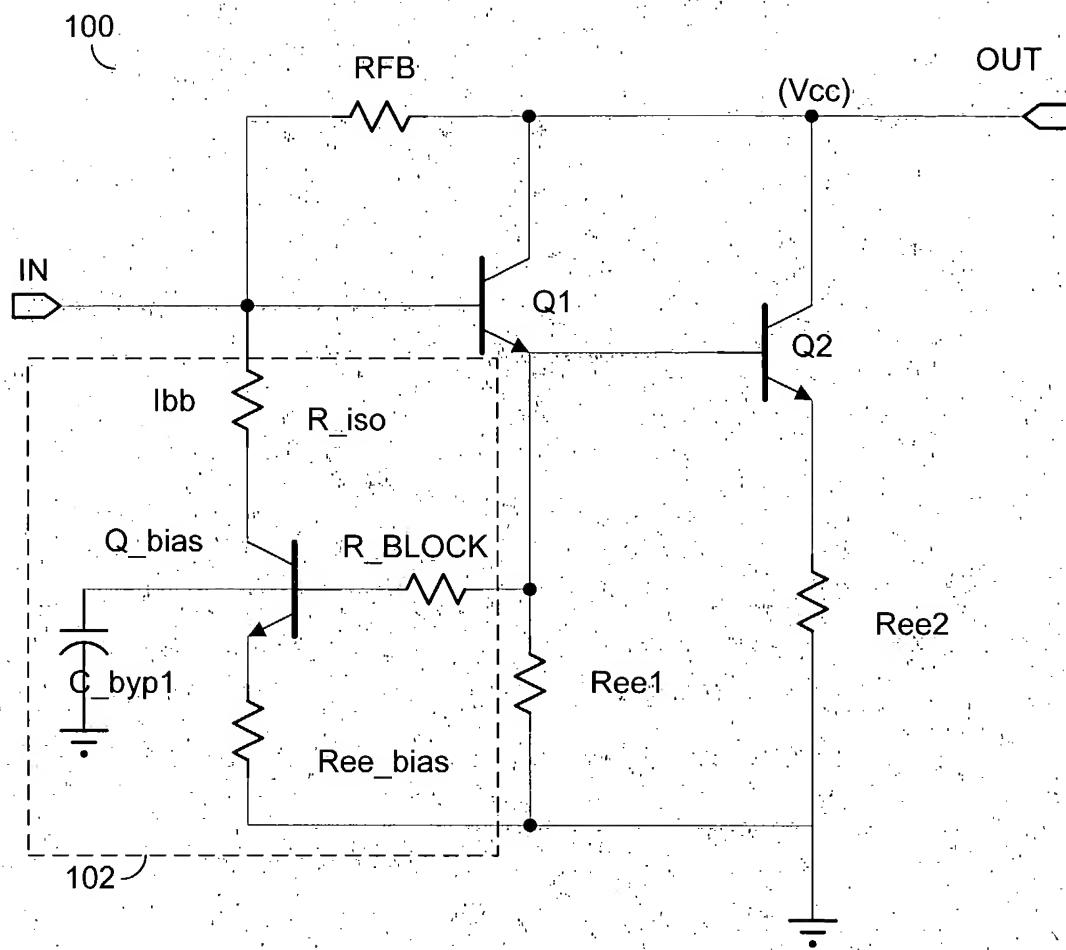
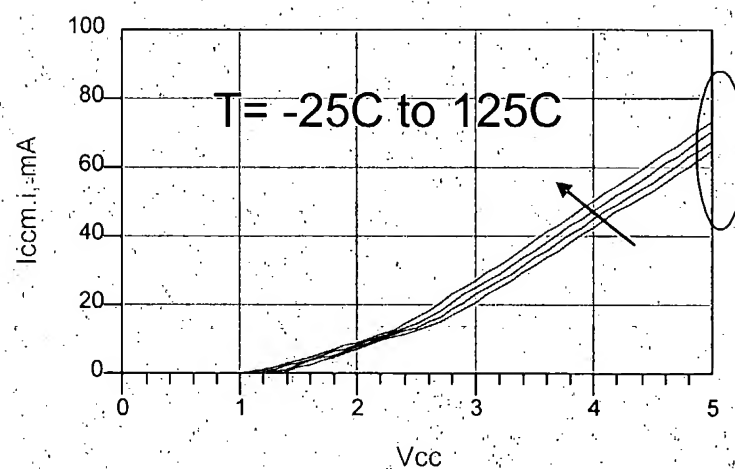


FIG. 6

FIG. 7



10 mA Variation or +/- 7%

FIG. 8

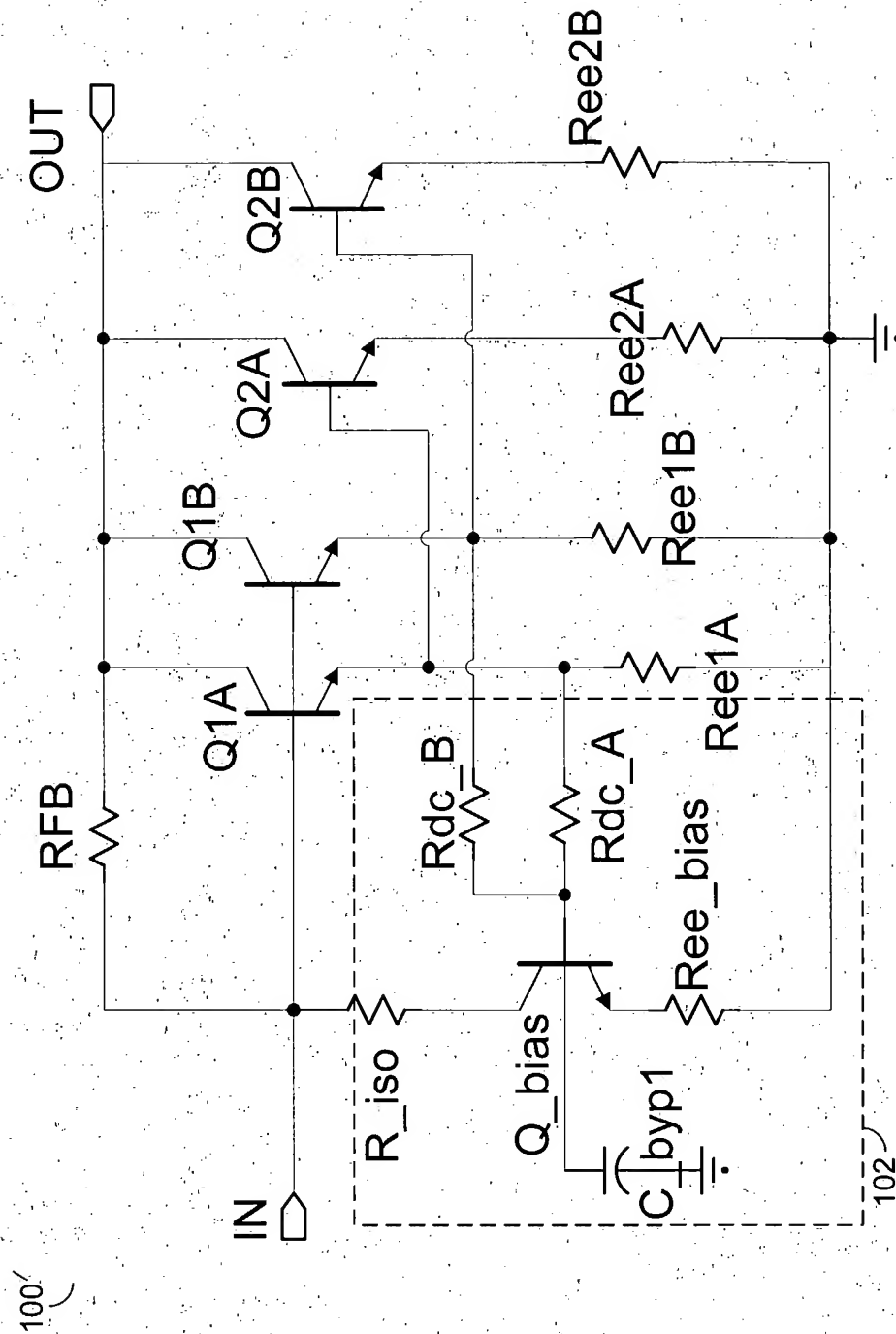
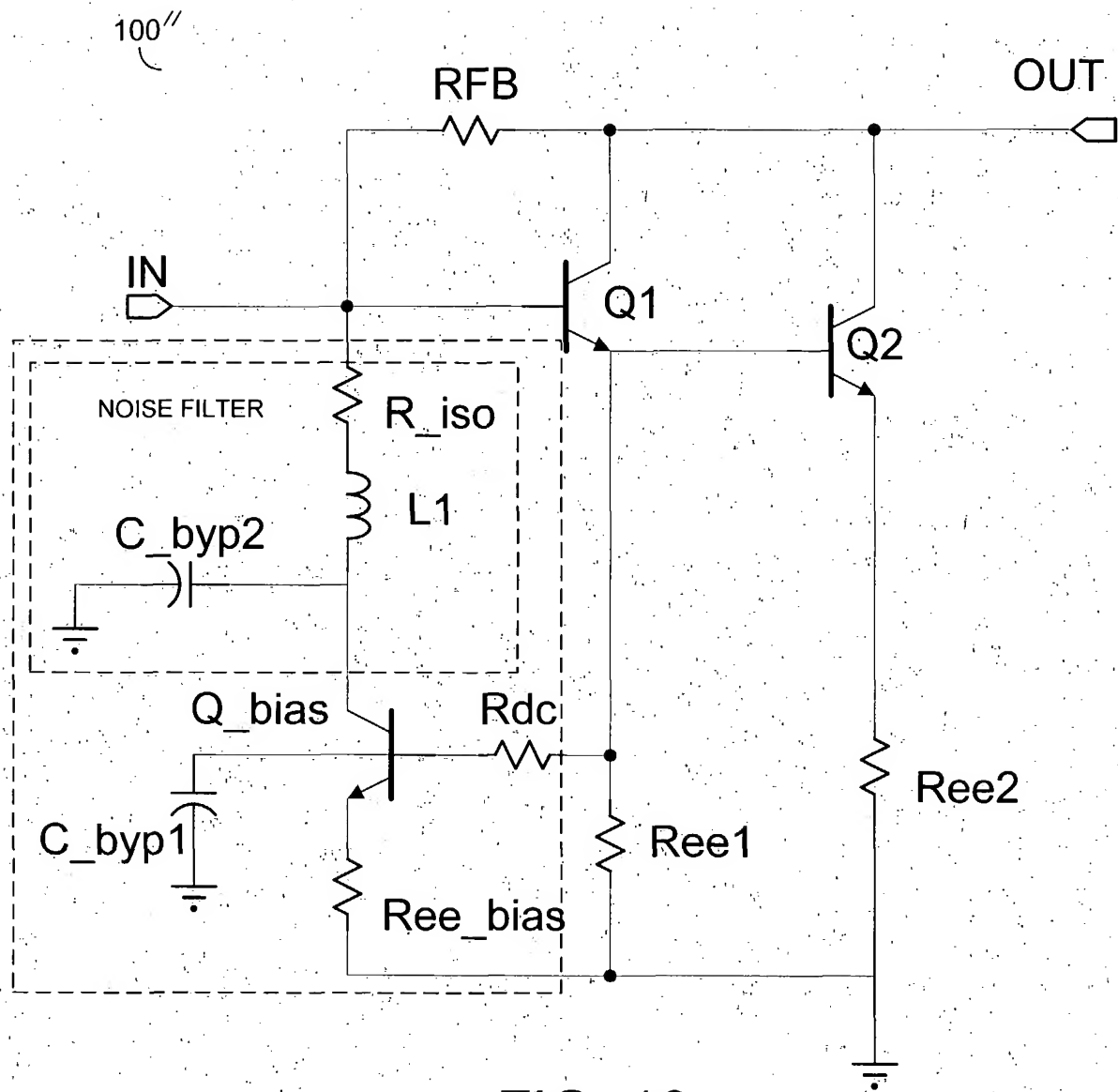


FIG. 9

FIG. 10

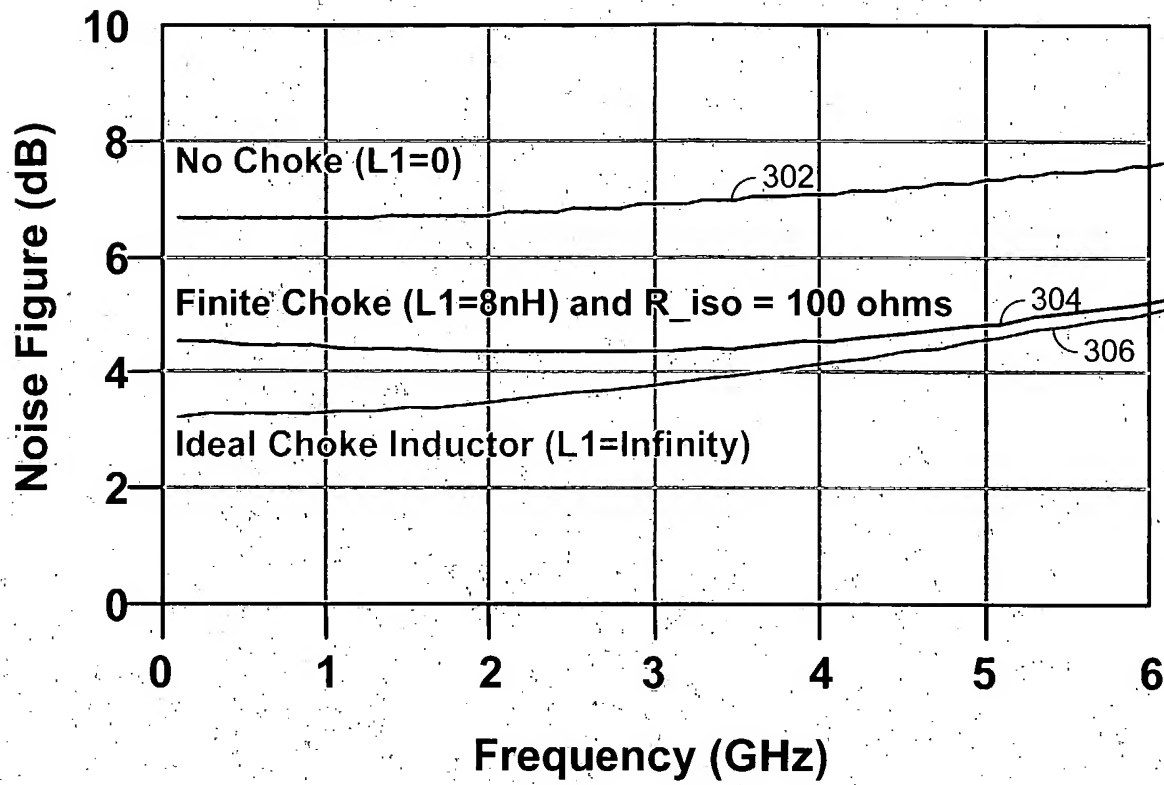
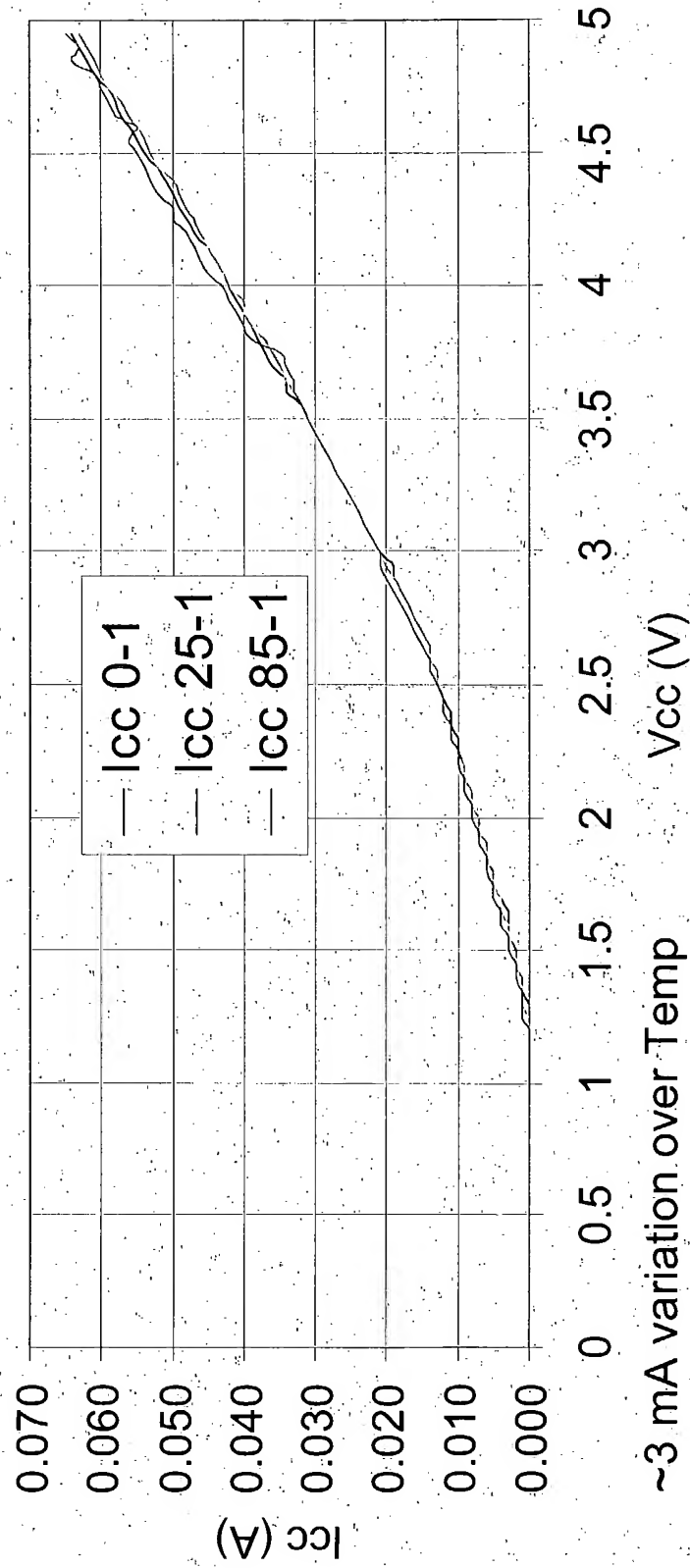


FIG. 11

l_{cc} vs V_{cc}
G70_2 (T=0, 25, 85C)

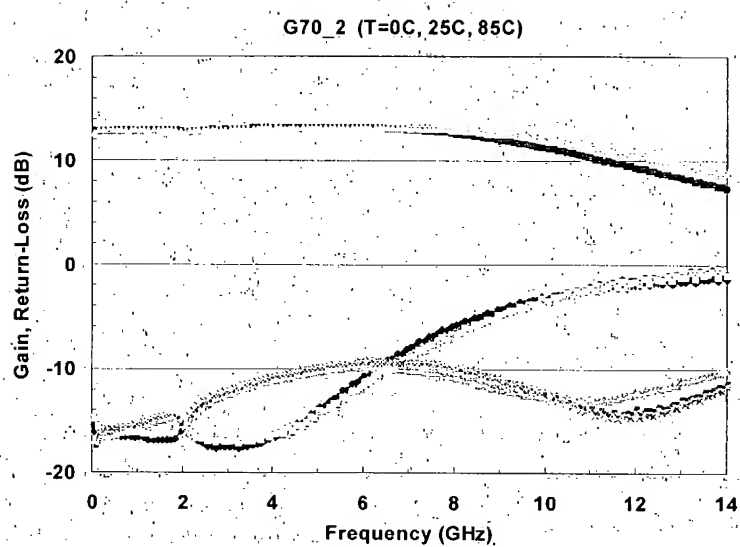


~3 mA variation over Temp

(< 5% variation, T=0-85C)

~20 mAV V_{cc} sensitivity

FIG. 12

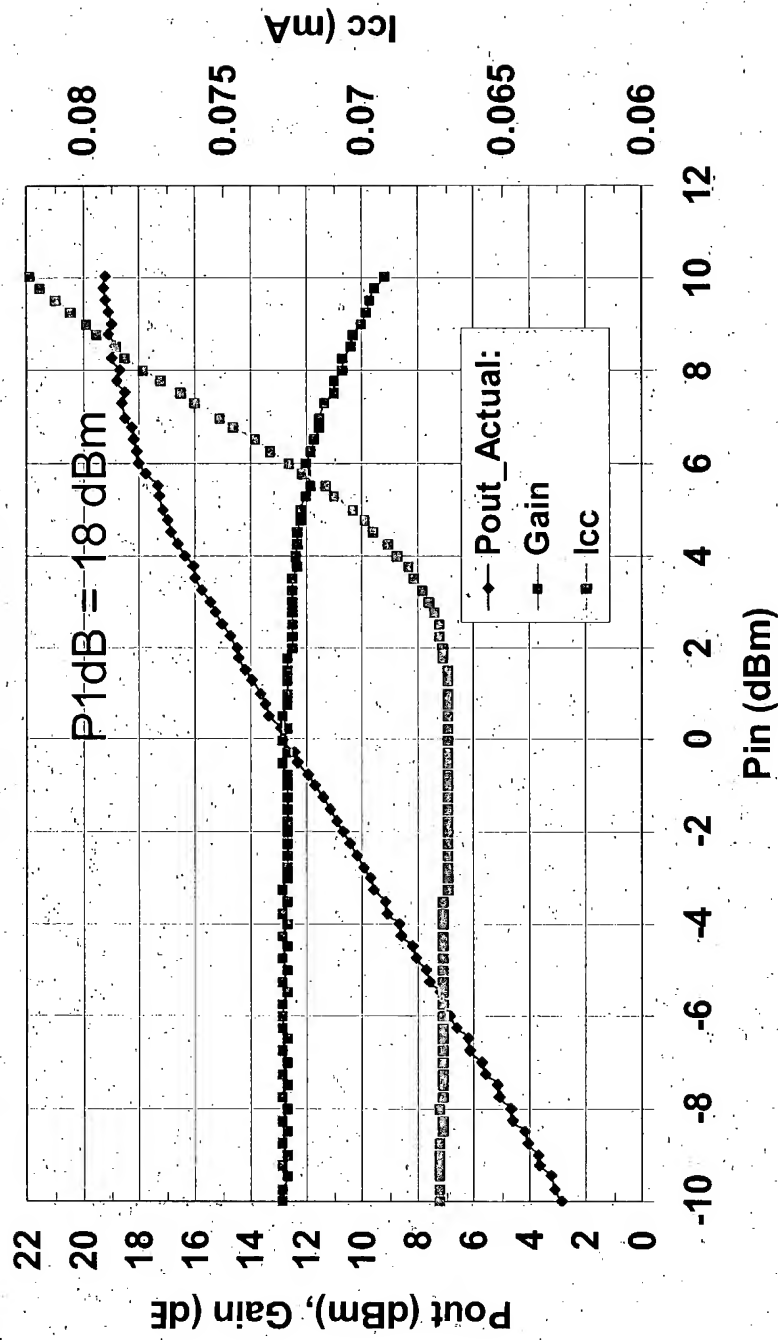
FIG. 13

Self-bias Amp (G70_2) P1dB @ 2 GHz

Temp = 25C

G70 @ 2GHz, 25C

Pin vs Pout, Gain, PAE



Self-bias allows Icc to increase with Pin → topology can be designed for class B, AB bias

FIG. 14